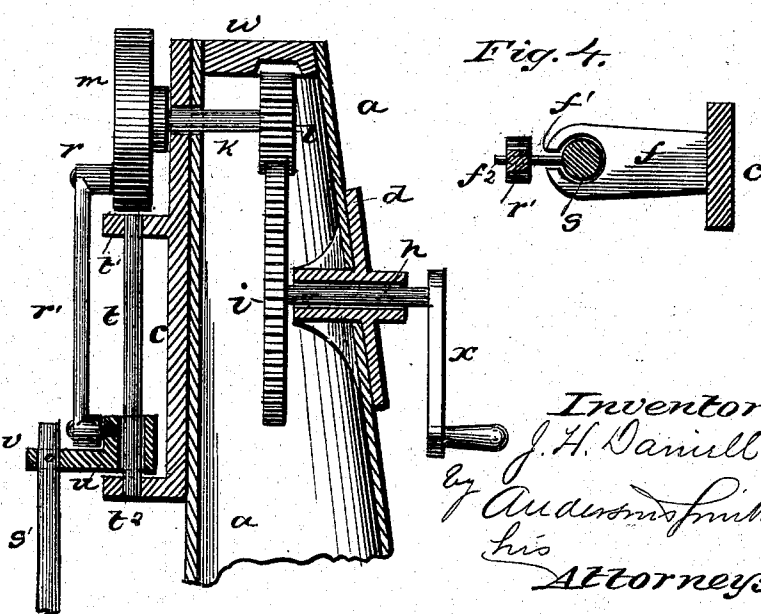


Patented Jan. 1, 1884.



Witnesses:

John T. Monro. v
E. H. Bates

Inventor:

 J. H. Daniell
by *Audensmith*
his
Attorneys.

UNITED STATES PATENT OFFICE.

JAMES HOPKINS DANIELL, OF PRESCOTT, ARKANSAS.

CHURN.

SPECIFICATION forming part of Letters Patent No. 291,306, dated January 1, 1884.

Application filed July 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. DANIELL, a citizen of the United States, resident at Prescott, in the county of Nevada and State of Arkansas, have invented certain new and useful Improvements in Churns; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a side view.

Fig. 2 is a vertical sectional view, and Figs. 3 and 4 are detail views.

This invention has relation to churning-machines; and it consists in the construction and novel arrangement of devices, as will be hereinafter fully described, and particularly pointed out in the claims appended.

Referring by letter to the accompanying drawings, *a* designates a conical frame, of sheet-iron, made flat on one side, as shown, and cut out at *b* in the flat side, near its base, to receive the churn. The base of the frame *a* is about twenty-four inches in its largest dimension, and the frame is forty-five inches in height. These dimensions may be varied to any required size I may desire, as a larger size will be required for dairy use. The frame *a* is strengthened on its outer sides, near its top, by bearing-irons *c* and *d*, in which are formed the bearings for the journals of the gear-wheels and fly-wheel used in this construction, and from one of which, *e*, extends the guides *e* and *f* for the plunger-rod *s*.

h designates the shaft for the spur-gear wheel *i*, and *k* indicates the shaft for the pinion *l* and the fly-wheel *m*, the latter wheel being upon the end of the shaft *k*, and the two former being incased by the conical frame *a*, as shown. The spur-wheel pinion and fly-wheel are all cast, and the fly-wheel has four spokes, the spoke *n* being provided with five holes, *p*, for the reception of the wrist-pin *q*, in order that the eccentric *r* may be adjusted out and in, to lengthen or shorten the stroke of the plunger *s* or dasher-rod *s'*, accordingly as the pitman *r'* is connected to the one or the other. Where the plunger *s* is employed, the guides *e* and *f* are used, the lower guide, *f*, being open

at *f'* to permit the pin *f''*, by which the lower end of the pitman *r'* is connected to the plunger *s* between the guides *e* and *f*, to pass when the machine is in operation.

In the modification shown in Fig. 3 no plunger *s* is used. A guide-bar, *t*, is provided between the arms *t'* *t''*, on which the pitman-head *u* slides. The pitman-head *u* is provided with an arm or projection, *v*, to which the upper end of the dasher-rod *s'* is connected. In other respects the construction is the same as that hereinbefore described. The cut-out portion leaving the opening *b* in the flat side of the frame *a* enables me to bring the churn directly beneath the plunger or pitman-head, and also enables me to employ shorter shafts for the gear-wheels and fly-wheels than I could otherwise do.

The frame is preferably made of a single piece of sheet metal cut out in the proper form and bent around a block or former, *w*, at the top, and having its overlapped edges secured by rivets.

x designates the crank for operating the mechanism. In the dairy-size power may be applied by belt and pulley.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the conical frame *a*, of sheet-iron, made flat on one side and cut away in said flat side near its base, as at *b*, to receive the churn, of the bearing-irons *c* *d* near its top, for the journals of the shafts *h* and *k*, the spur-gear *i*, pinion *l*, fly-wheel *m*, having the spoke *n*, provided with a plurality of perforations, and pitman *r'*, connected to the plunger-rod working in guide-arms extending from the bearing-iron *c*, and the said rod adapted to connect with the dasher-rod, substantially as specified.

2. In a churning-machine, the conical frame *a*, made of sheet-iron, and having one flat side cut out at *b* near its base to receive the body of a churn, to bring it centrally under the operating-plunger, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES HOPKINS DANIELL.

Witnesses:

L. E. HINTON,

GEORGE P. SMOOTE.